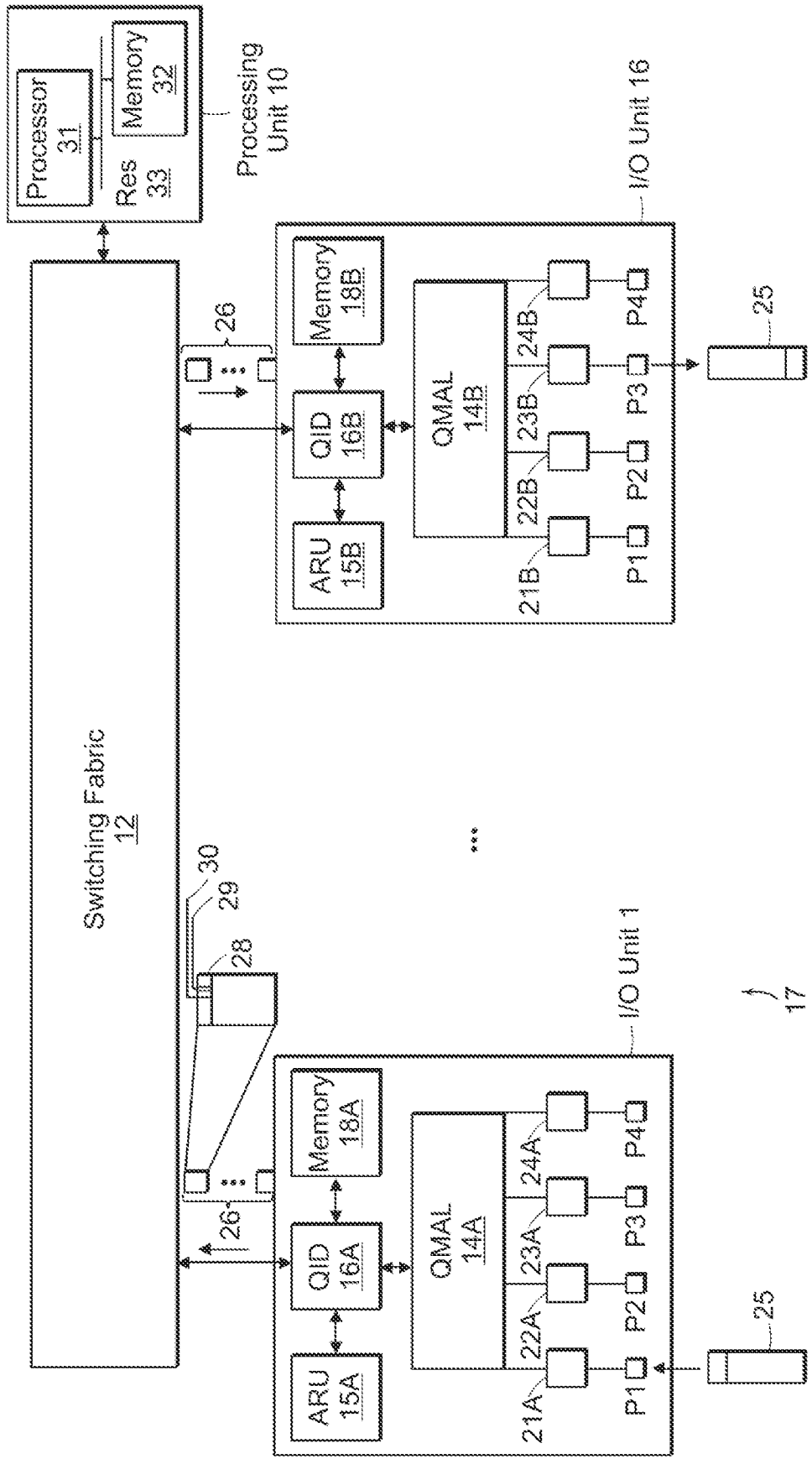

Processor 31
Memory 32
Res 33
Processing Unit 10
Switching Fabric 12
I/O Unit 16
Memory 18B
QID 16B
ARU 15B
QMAL 14B
26
21B
22B
23B
24B
P1
P2
P3
P4
25
I/O Unit 1
Memory 18A
QID 16A
ARU 15A
QMAL 14A
21A
22A
23A
24A
28
29
30
17

FIG. 1

FIG. 2A

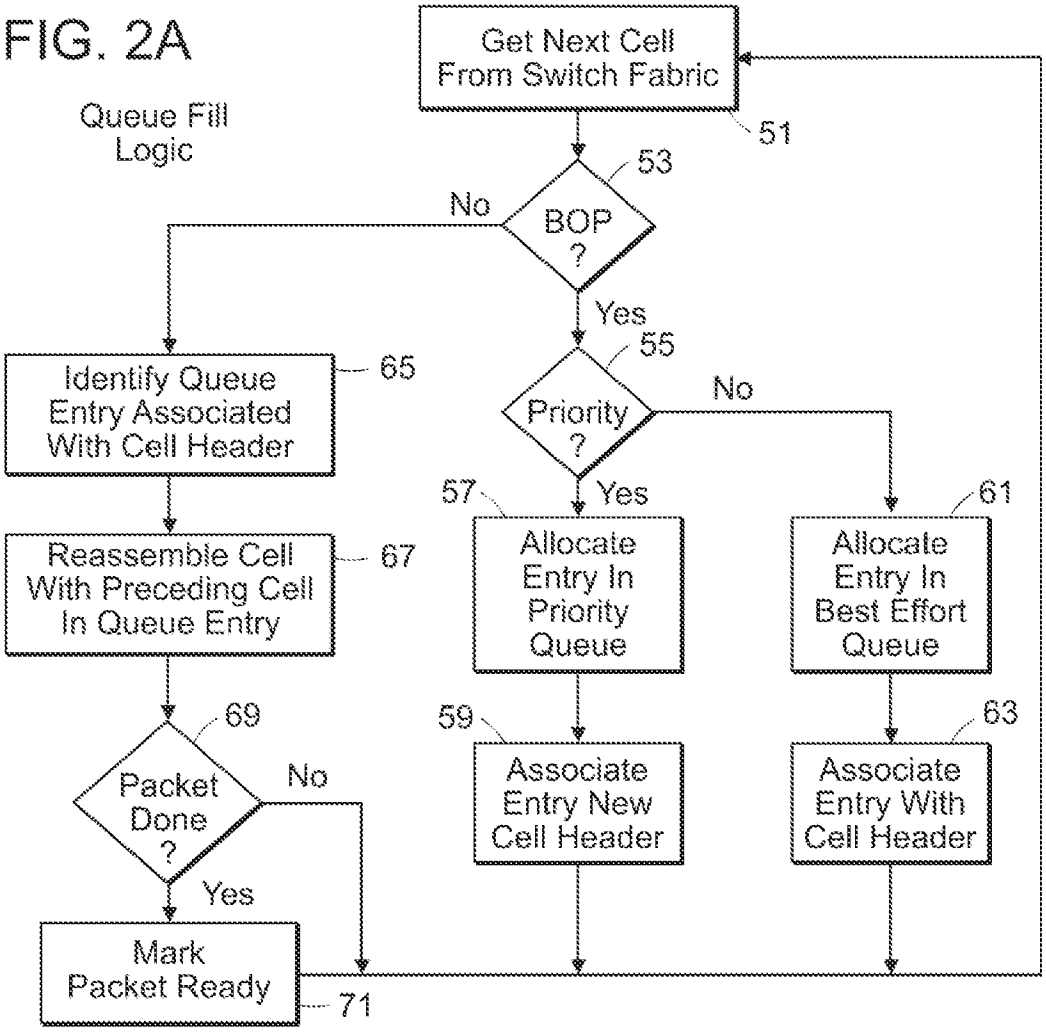
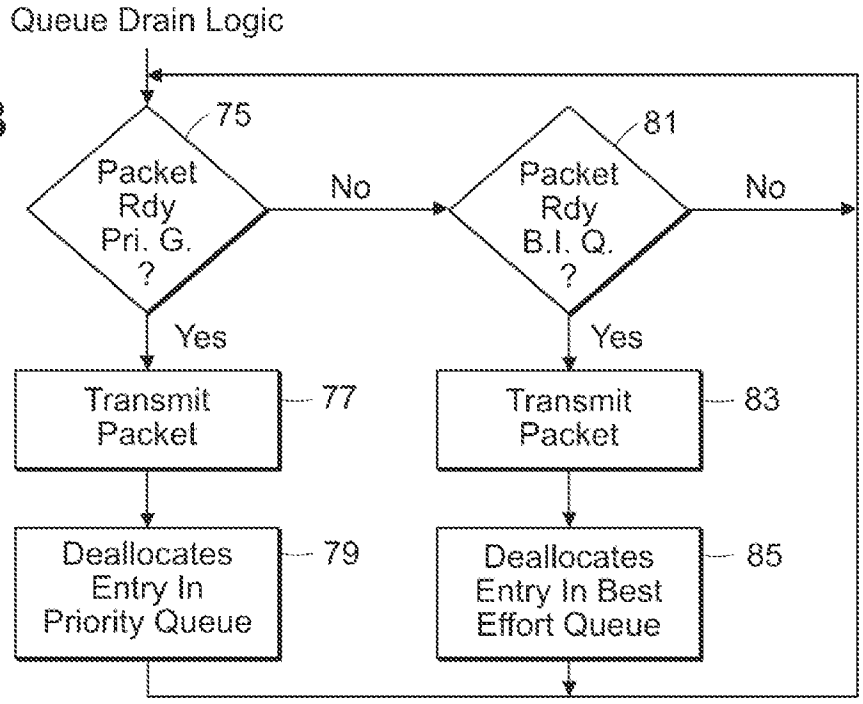

Queue Fill Logic
Get Next Cell From Switch Fabric
51
53
BOP ?
No
Yes
55
Priority ?
No
Yes
57
61
Identify Queue Entry Associated With Cell Header
65
Reassemble Cell With Preceding Cell In Queue Entry
67
Allocate Entry In Priority Queue
Allocate Entry In Best Effort Queue
69
Packet Done ?
No
Yes
59
63
Associate Entry New Cell Header
Associate Entry With Cell Header
Mark Packet Ready
71

FIG. 2B


Queue Drain Logic
75
Packet Rdy Pri. G. ?
No
81
Packet Rdy B.I. Q. ?
No
Yes
Yes
Transmit Packet
77
Transmit Packet
83
Deallocates Entry In Priority Queue
79
Deallocates Entry In Best Effort Queue
85

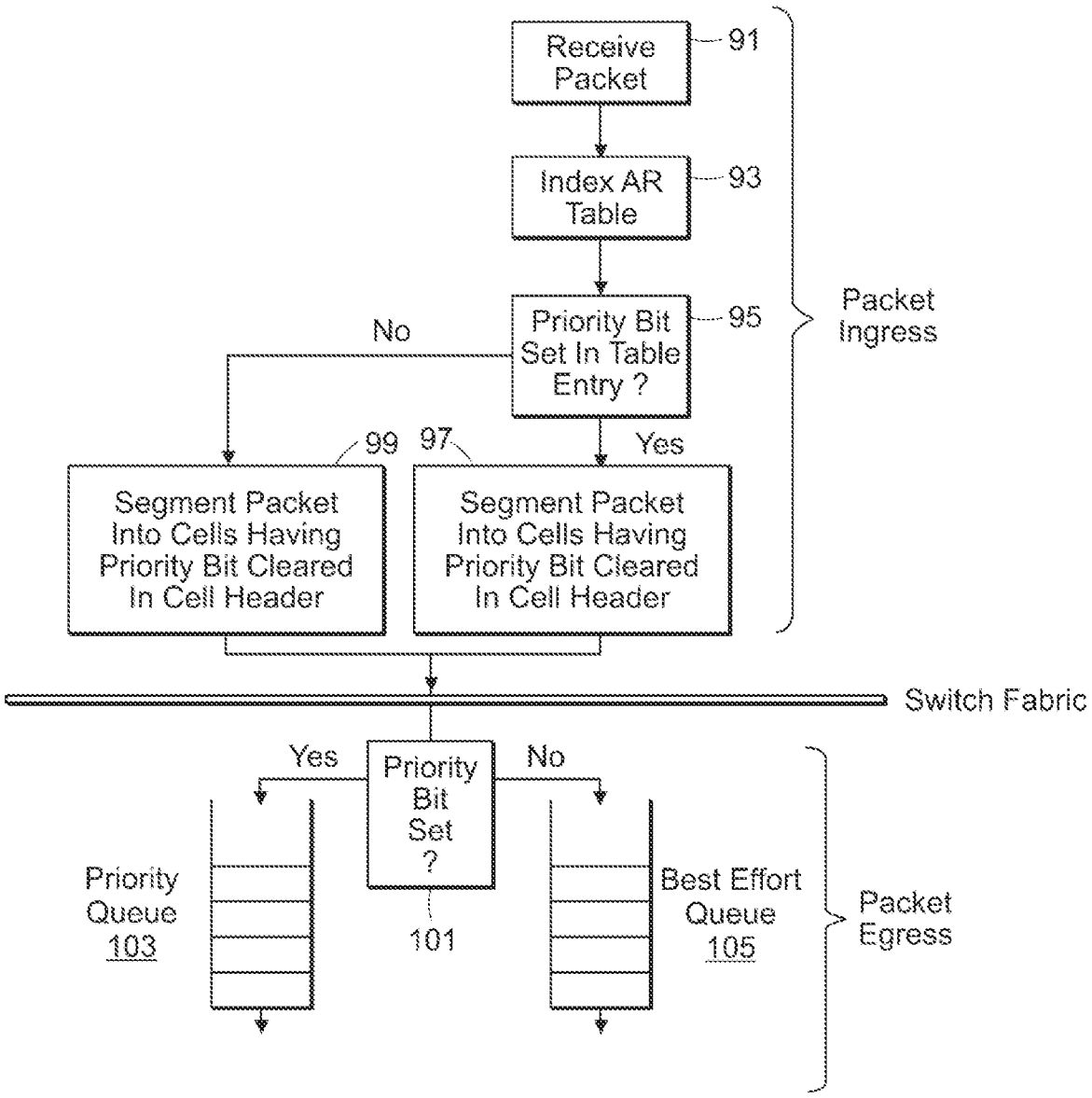

Receive Packet
91
Index AR Table
93
Priority Bit Set In Table Entry ?
95
No
Yes
99
97
Segment Packet Into Cells Having Priority Bit Cleared In Cell Header
Segment Packet Into Cells Having Priority Bit Cleared In Cell Header
Packet Ingress
Switch Fabric
Yes
Priority Bit Set ?
No
101
Priority Queue 103
Best Effort Queue 105
Packet Egress

FIG. 3

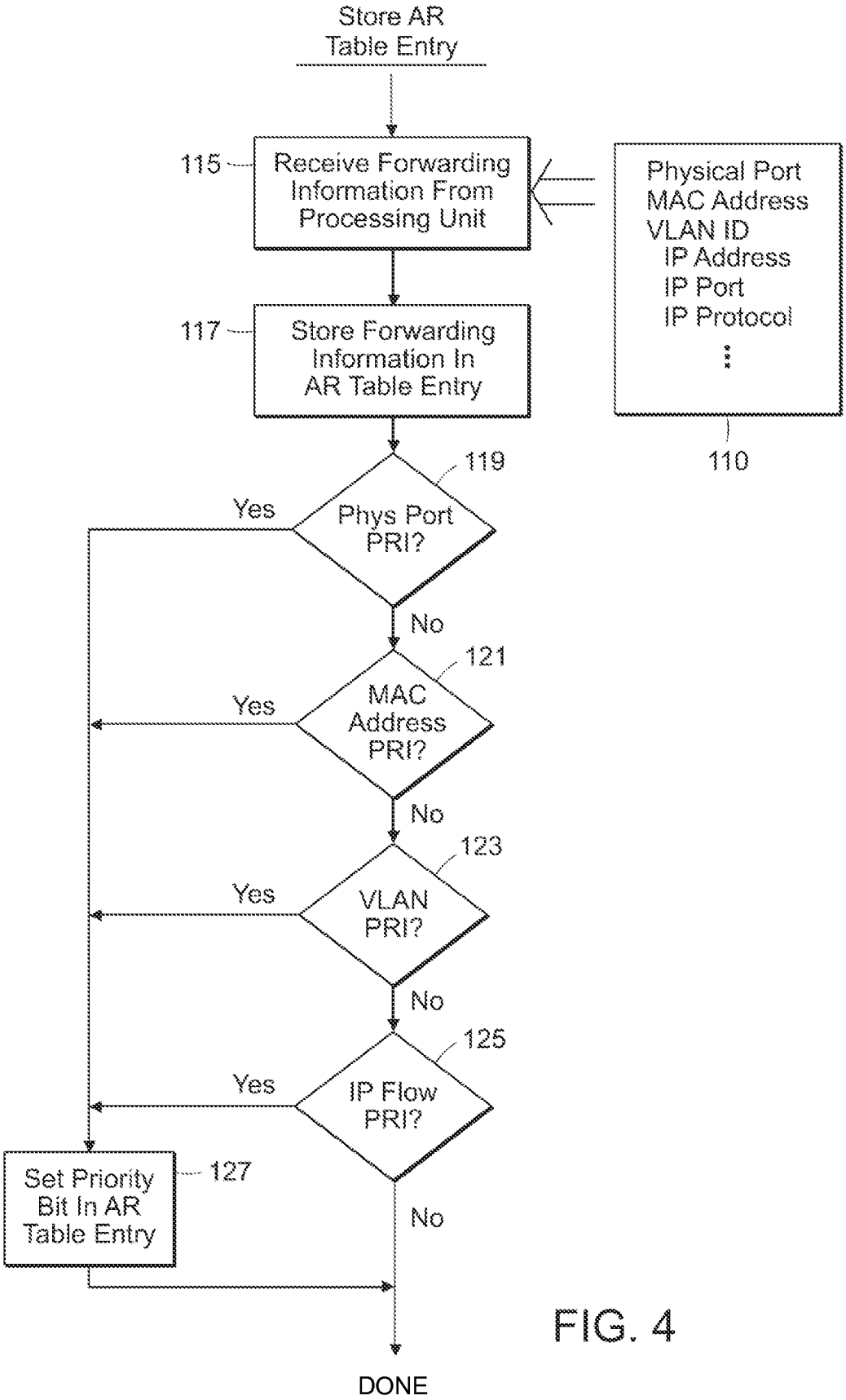

Store AR Table Entry
115
Receive Forwarding Information From Processing Unit
Physical Port
MAC Address
VLAN ID
IP Address
IP Port
IP Protocol
117
Store Forwarding Information In AR Table Entry
110
119
Phys Port PRI?
Yes
No
121
MAC Address PRI?
Yes
No
123
VLAN PRI?
Yes
No
125
IP Flow PRI?
Yes
No
Set Priority Bit In AR Table Entry
127
DONE

FIG. 4

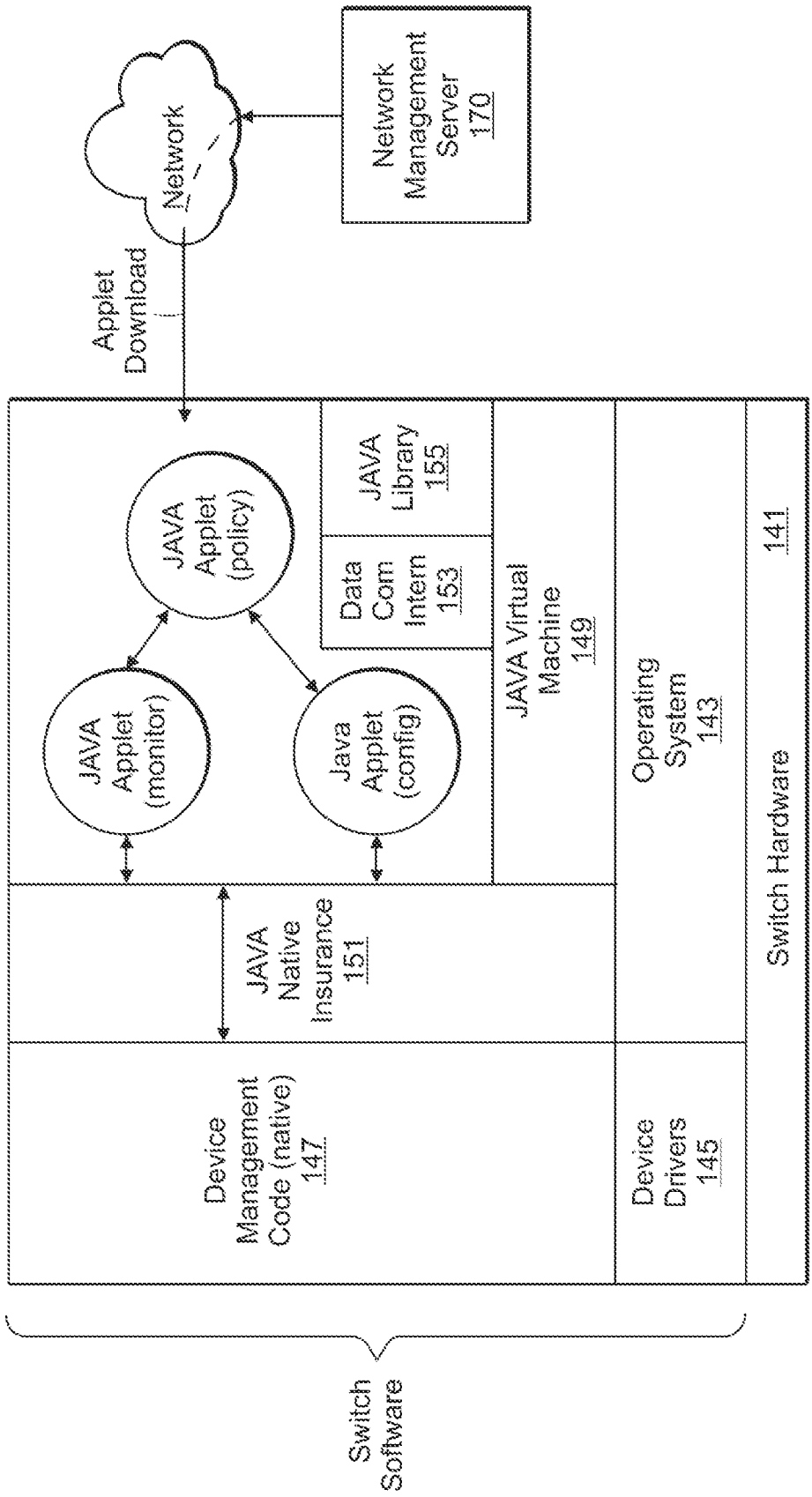

Network Management Server 170
Network
Applet Download
JAVA Client 160
JAVA Applet (policy)
JAVA Applet (monitor)
Java Applet (config)
JAVA Library 155
Data Com Intern 153
JAVA Virtual Machine 149
Operating System 143
Switch Hardware 141
JAVA Native Insurance 151
Device Management Code (native) 147
Device Drivers 145
Switch Software
17

FIG. 5

```
MONITOR:
  FOREVER
  (
     READ_DEST_MAC_UTIL%(PORT1,MAC ADDR A)
     READ_DEST_MAC_UTIL%(PORT1,MAC ADDR B)
  )  DELAY 10MS
```
178

```
POLICY ENFORCEMENT:
   A%: LINE UTILIZATION % MAC ADDR A
   B%: LINE UTILIZATION % MAC ADDR B
   QA_S: QUEUE ASSIGNMENT OF SERVER MAC ADDR TRAFFIC
   QA_A: QUEUE ASSIGNMENT OF MAC ADDR A TRAFFIC
   QA_B: QUEUE ASSIGNMENT OF MAC ADDR B TRAFFIC

   DELTA = 5%
   QA_S = QA_A = QA_B = PRI.Q
   FOREVER
   (
         GET A%, B% FROM MONITOR
   181   IF (QA_A = PRI.Q AND QA_B = PRI.Q) AND
         ((A%+B%)>80%)
               QA_A= B.E.Q
   183   IF (QA_A = B.E.Q AND QA_B = PRI.Q) AND
         ((A%+B%)<(80%-DELTA))
               QA_A = PRI.Q
   185   IF (QA_A = B.E.Q AND QA_B = PRI.Q) AND
         (8%>80%)
               QA_B =B.E.Q
   187   IF (QA_B = B.E.Q) AND
         (8%<(80%-DELTA))
               QA_B =PRI.Q
   )     DELAY 5MS
```
179

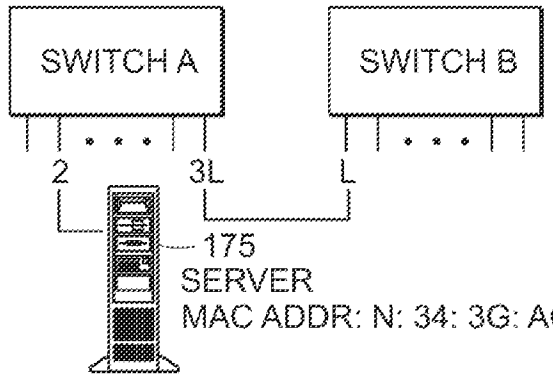


FIG. 6

```
CONFIGURATION:
      QA_A: QUEUE ASSIGNMENT OF MAC ADDR A TRAFFIC
      QA_B: QUEUE ASSIGNMENT OF MAC ADDR B TRAFFIC
      LAST_QA_A: QA_A HISTORY
      LAST_QA_B: QA_B HISTORY

      LAST_QA_A = LAST_QA_B = PRI.Q

      FOREVER
      (
       GET QA_A, QA_B FROM POLICY ENFORCEMENT
       IF (QA_A1 = LAST_QA_A)
       (
            MOVE_VIRTUAL QUEUE (PORT1, MAC ADDR A, QA_A)
            LAST_QA_A = QA_A
       )
       IF (QA_A1 = LAST_QA_A)
       (
            MOVE_VIRTUAL QUEUE (PORT1, MAC ADDR A, QA_A)
            LAST_QA_A = QA_A
       )
       DELAY 2.5MS
```
180